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ABSTRACT

This report describes a study on Arizona's beginning teacher induction, examining how induction program elements vary statewide. It also examines three induction models: the California Model, the Connecticut Model, and a model for science teachers in Arizona. In 2000, researchers surveyed 197 traditional public school districts regarding their induction programs. Overall, 137 of the districts had induction programs. The term induction varied enormously in the districts. Only 34 districts addressed new teachers' needs in a systematic, consistent, and ongoing manner. The most common goals for induction programs were teacher success and effectiveness, teacher support and comfort, and policies and procedures. The least reported goals included classroom management and discipline, culture, knowledge of teaching strategies, and student achievement. The most common school orientation topics were policies and procedures, curriculum and standards, and classroom management and discipline, while the least common topics were student achievement, mentoring, expectations of teachers, and a school tour. The most common professional development activities included curriculum content and standards, teaching strategies, and assessment and evaluation. The least reported categories were social activities, technology, parents, and CLP. The most common forms of follow-up were CLP, teacher evaluations, and observations. Most high intensity induction programs were located in urban areas and large school districts. (Contains 95 references.) (SM)

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Patty J. Horn

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Accountability Through 'Best Practice' Induction Models

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Introduction

Over one-third of beginning teachers do not teach beyond two years (Odell & Ferraro, 1992; Hope, 1999). In fact, the teaching profession is notorious for having a high attrition rate: approximately 33% to 50% of teachers leave within the first five years, and 40% of those leave during only the first *two* years (Hope, 1999). If these statistics are any indication, perhaps it is this attrition that is creating one of the causes of the teacher shortage (Education Week, 2000), as well as a cause for the lack of documented accountability within the classroom. Several questions emerge. Why do so many teachers leave the profession after only one or two years? For those teachers who remain in the profession: how were their early teaching experiences different from those of their colleagues who left so early in their careers? Teachers face many difficulties that may lead them to exit the profession – the more problems encountered, the more likely one is to leave (Veenman, 1984). The National Commission on Teaching & America's Future (1996) offers five possible reasons that teachers leave: (a) being assigned to teach the most difficult students; (b) inundation with extracurricular duties; (c) placement outside their fields of expertise; (d) no support from administration; and (e) isolation from colleagues. Historically, other typical concerns of beginning teachers have included discipline and management, parents and the community, teaching strategies, colleagues, motivating students, materials and supplies, assessment (Johnston, 1985; Veenman, 1984), reality/culture shock, and the confusion of self-understanding (Johnston, 1985). More recently, great job dissatisfaction among math and science teachers has become a factor in teacher attrition (Britton, Raizen, Paine, & Huntley, 2000). These potential career-ending problems call for effective induction programs. Varah, Theune, & Parker (1986) assert that a coordinated induction program is an effective way to develop excellent staff and retain new teachers.

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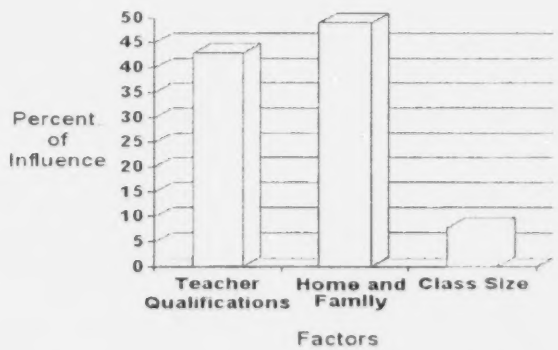
There has been considerable research conducted within the last decade on beginning teacher induction (e.g., Ficara, Patterson, & Luft, 2000; Huling-Austin, 1992; Luft & Cox, 2001; Luft & Brockmeyer, 2000; Luft & Patterson, 2000; Perez, Swain, & Hartsough, 1997; Yopp & Young, 1999; Zepeda, & Ponticell, 1997). In light of continuing educational reform and the increased focus on student achievement, colleges of education and other constituents involved in preparing K-12 public school teachers have increasingly come under scrutiny as to exactly how they have been and are continuing to prepare future educators. One area that has garnered increased attention within the last decade, but particularly within the last five years, is beginning teacher induction as colleges of education are expected to follow their graduates into their classroom assignments.

The professional continuum for a teacher begins with pre-service teacher education. If, in fact, it has become common knowledge that teacher qualifications influence student achievement (Ferguson, 1991), educators need to assure the public that pre-service teachers are qualified to the extent that they, too, influence student achievement (see Figure 1).

Figure 1. Factors that influence student achievement.



Going a step further, identifying the role of the teacher education program in the induction process as their teacher graduates enter the first year of the profession will hold the

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teacher education program accountable for the competence of their graduates. There is a professional development cycle for teachers that includes: pre-service teaching → increased student achievement gains → entering the profession through induction programs → teacher assessment accountability → increased student achievement gains → continuous professional development. Partnership and collaborations need to be established for the purpose of retaining beginning teachers beyond two years by offering an increase in quality induction programs, which could begin to address the issues of accountability and the rising existence of teacher shortages.

Induction programs take many forms, and studies have shown that induction programs are mediated by a complex array of variables (e.g., Huling-Austin, 1990; Stewart, 1992). This report illustrates the results of a study conducted by researchers from the Arizona K–12 Center focusing on the state of induction in Arizona, and describes the various induction programs elements and how they vary across the state.

History of Induction

The term *induction* was coined as early as the 1960s when it was equated with entry into school as a beginning teacher (Shaplin in Lawson, 1992). The literature on teacher induction began to flourish in the early 1970's when the Wisconsin Improvement Program initiated its first teacher induction program in 1971, and the University of Wisconsin at Whitewater Implemented various kinds of induction programs in the areas of elementary, secondary, and special education (Varah, et.al, 1986). During this time, researchers began to focus on the socialization process of teachers into the norms of a school, and the adjustment phenomenon of how a new teacher would fit into the existing organization (Griffin, 1985). Consequently, a distinction developed between research that described the experience of new teachers and research regarding the "influence of

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intentional interventions in the lives and work of new teachers" (Griffin, 1985, p.42). In the mid- to late 1980s, "political pressures and attrition from teaching accelerated the implementation of teacher induction programs designed to assist with the transition from student-teacher to self-directing professional" (Andes, 1995, p. 11). From that point, the control of teacher preparation was transferred from the power of the universities to the local districts.

Teacher induction has been defined in most of the recent literature either as a period of time or as a program. For example, Blair-Larsen and Bercik (1990, p.3) frame their definition in terms of time: induction is "the period of transition from student to professional when beginning teachers are offered supervision and support as they adjust to their new roles." Conversely, Lawson (1992, p. 163) sees induction as "preplanned, structured, and short-term assistance programs offered in schools for beginning teachers." Induction includes such practices as orientations, release time, group meetings, mentors, workshops a reduced teaching load, observations, and team teaching (Humphrey, Adelman, Esch, Riehl, Shields, & Tiffany, 2000; Stansbury & Zimmerman, 2000; Veenman, 1984). Whether seen as a time period, a program or simply as entry into a school district, induction has been a main theme in the education of a teacher.

While most past research on induction had covered assessment, assistance, and difficulties (Huling-Austin, 1992), topics since the early '90s have included the needs and concerns of beginning teachers, the role and function of mentor teachers, analyses of various programs and their components, cost, effectiveness of induction on teaching performance and retention (Huling-Austin, 1992, p. 173), as well as program models and goals (Britton, Raizen, Paine, & Huntley, 2000; National Commission on Mathematics and Science Teaching for the 21st Century; Robinson, 1998).

Induction is designed to aid teachers in meeting professional needs and reducing the likelihood of encountering problems of beginning teachers. There is not copious literature regarding research on induction programs; however, there are a few studies that have actual empirical data suggesting that certain components of the programs are better than others.

Nine Common Elements of Induction Programs

A literature review conducted in 2001 (Sterling, Horn, & Wong, 2001) indicates that there are several, prevalent elements common to many programs, including the induction programs reviewed here, that are useful to the induction of new teachers. The authors of this paper have identified nine common elements represented in Figure 2 that include:

1. Orientation (e.g., Arends & Regazio-DiGilio, 2000; Fideler & Haselkorn, 1999).
2. Mentoring (e.g., Arends & Regazio-DiGilio, 2000; Dagenais, 1996; Feiman-Nemser, 1996; Fideler & Haselkorn, 1999; Huling-Austin, 1992).
3. Adjustment of working conditions (e.g., Arends & Regazio-DiGilio, 2000; Gold, 1996; Lemke, 1994).
4. Release time (e.g., Arends & Regazio-DiGilio, 2000).
5. Professional development (e.g., Fideler & Haselkorn, 1999; Johnston, 1985)/
6. Opportunities for collegial collaboration (e.g., Arends & Regazio-DiGilio, 2000; Huling-Austin, 1992; Lemke, 1994).
7. Teacher assessment (e.g., Dagenais, 1996; Lemke, 1994).
8. Program evaluation (e.g., Britton, et. al, 2000; Fideler & Haselkorn, 1999).
9. Follow-up into the second year (e.g., Fideler & Haselkorn, 1999; Yopp & Young, 1999).

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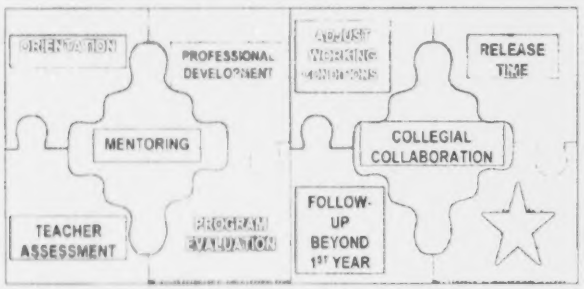
Figure 2. Nine common identified elements in high-intensity induction programs.



Each of these elements is described in the following sections.

Orientation

This element of an induction program is usually implemented before the school year begins; it has duration of at least one work week (Arends & Regazio-DiGilio, 2000); it is intended to orient new teachers to the community, district, curriculum, and school; and has been shown to reduce initial adjustment problems (Fideler & Haselkorn, 1999).

Mentoring

Huling-Austin (1992), in an analysis of induction programs, noted mentoring as an important factor in the success of an induction program. Like induction, mentoring can be defined a number of ways, but it is essentially a collaboration between an experienced teacher and a beginning teacher to assist beginning teachers with the day-to-day aspects of teaching, to socialize them into the profession of teaching, and to familiarize them with the norms of the school district (Humphrey, et al., 2000, p. 110; Tellez in Andes, 1995, p. 2).

The importance of mentoring. Because mentoring is often the most prominent characteristic of induction programs, it merits special attention in itself. Huling-Austin (1992, 1986, p. 50) found that "the assignment of an appropriate support teacher is likely to be the most powerful and cost-effective intervention in an induction program." Stewart (1992, p. 222) noted that "members of the Association of Teacher Educators (ATE) rated mentoring beginning

teachers and school reform as the two most critical issues for improving teacher education in the 'First Annual Survey of Critical Issues in Teacher Education' of 1990." Andes (1995) reports that one researcher found that teacher support in the form of mentoring was the most consistent finding across seventeen induction programs.

Why is mentoring an important element? It is clear that mentoring is a powerful element in induction programs. The question is: Why? One reason is the cost effectiveness (Britton, et. al, 2000; Huling-Austin, 1986). Mentoring, as one program, can address a variety of issues and problems facing new teachers. In fact, Odell and Ferraro (1992, p. 200) note that the three goals of mentoring which have "survived conceptual analyses" over the years are "to provide beginning teachers with the guidance and support from mentor teachers, to promote the professional development of beginning teachers, and to retain beginning teachers." It is this last goal that directly speaks to an economic perspective of cost effectiveness. For example, when a new teacher leaves the profession, it costs taxpayers over $50,000 (Texas State Board for Educator Certification Panel, 1998); however, and perhaps more importantly, a mentoring program can increase the retention of novice teachers (American Association of Colleges for Teacher Education, 1995; Fideler & Haselkorn, 1999; Hegler & Dudley, 1986; Odell & Ferraro, 1992; TSBECP, 1998). Odell & Ferraro (1992) note that five-year statewide data for New Mexico illustrated a higher attrition rate for non-mentored teachers than for those who were mentored: at least 9% difference *per year*.

Mentoring in induction programs. In mentoring, new teachers are often matched with more experienced teachers in their grade level or content area who will provide personal and emotional support, help new teachers explore a variety of teaching strategies that address student diversity, solve specific problems that come up during the year, and assist new teachers in

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critically reflecting on teaching practice (Connecticut State Department of Education, 1999; Stansbury & Zimmerman, 2000). Additionally, mentors help with acquiring resources, addressing student discipline, interacting with parents, managing the school day, and simply functioning within the school system (e.g., Baptiste & Sheerer, 1997; Hegler & Dudley, 1986; Huling-Austin, 1992; Odell & Ferraro, 1992). Mentor teachers need to be endorsed by principals, and trained in various mentoring techniques (Britton, et. al, 2000; Fideler & Haselkorn, 1999); in fact, successful mentor programs are dependent upon the quality of mentor training (Feiman-Nemser, 1996; Ganser & Koskela, 1997) in skills such as coaching and observation, working with adults, understanding state and/or district standards, and knowing how to collect and analyze different types of evidence (Humphrey, et al., 2000). The mentor (and oftentimes the mentee) is given release time and is expected to use it for weekly meetings, observations, professional development, or other activities with the mentee (Arends & Regazio-DiGilio, 2000). Mentors often receive a stipend (O'Connell, Gillett, & Halkett, 1999).

Adjusting Working Conditions

It has been suggested that districts which adjust the working conditions of new teachers are effective in contributing to better teacher satisfaction and reducing teacher attrition (Arends & Regazio-DiGilio, 2000; Gold, 1996; Lemke, 1994). Several suggestions include: (a) reducing the number of students in new teachers' classrooms; (b) refraining from assigning them the most challenging students; (c) minimizing new teachers' extracurricular and committee assignments; (d) keeping the classrooms stocked with textbooks, desks, materials, and supplies; and (e) providing developmentally appropriate professional development activities.

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Release Time

Some researchers (e.g., Arends & Regazio-DiGilio, 2000) advise districts to allow time for new teachers to participate in induction activities such as attending seminars, working with mentors to analyze student work, and observing experienced teachers; mentors may also be given time to model lessons in beginning teachers' classrooms, observe the new teachers, or plan lessons with mentees. Requiring such activities outside school hours can be too demanding on novice teachers.

Professional Development

Professional development is intended to build a firm foundation for continued positive professional role development and to provide opportunities for new teachers to gain additional knowledge, skills, and attitudes necessary for successful teaching (Fideler & Haselkorn, 1999; Johnston, 1985; Lemke, 1994). Release time is usually provided for workshops, conferences, or mini-courses that address common challenges and beginning teacher concerns: instruction; classroom management and discipline; relationships with parents, the community, administrators, and peers; reality/culture shock; isolation; and self-understanding (Johnston, 1985, pp. 195, 197). Professional development may also address specific topics such as planning for back-to-school night, parent-teacher conferences, English as a Second Language (ESL), and assessment. These activities or approaches can be done either alone or in partnership with an educational department at a local university.

Collegial Collaboration

Collegial collaboration is a very important element of induction programs that reduces feelings of isolation (Huling-Austin, 1992; Lemke, 1994). The support of new teachers through collaboration with other professionals can include: (a) groups of teachers who engage in

instructional planning, team planning and assistance, and grade level assistance together (Arends & Regazio-DiGilio, 2000); (b) computer networks such as Internet bulletin boards or list-serves (Gold, 1996); and (c) establishing study groups that focus on specific topics where new teachers can learn from veteran teachers.

Teacher Assessment

It is important to periodically analyze new teachers' teaching practices for strengths and weaknesses (Dagenais, 1996; Lemke, 1994) using a variety of methods. Monitoring the performance of new teachers is best done periodically in *formative* assessments, relying on feedback to guide and assist them in improving their practice (Brooks & Sikes, 1997; Fideler & Haselkorn, 1999). The overall evidence gained from these ongoing formative assessments contributes to the *summative* assessments, formal teacher evaluations (Brooks & Sikes, 1997; Fideler & Haselkorn, 1999). In California's Beginning Teacher Support & Assessment (BTSA) (California Commission on Teacher Credentialing and the California Department of Education, 1997), observations by and of mentors have a direct impact on new teachers' decisions regarding activities (Yopp & Young, 1999, p. 33).

Program Evaluation

Districts want to ensure continuous program effectiveness and improvement through ongoing research, development, and evaluation; therefore, the agencies that sponsor the program operate a comprehensive, ongoing system of program evaluation involving participants and stakeholders (Britton, et. al, 2000; California Commission on Teacher Credentialing and the California Department of Education, 1997; Fideler & Haselkorn, 1999).

Follow-Up

Follow-up is often a forgotten portion of an induction program. New teachers certainly cannot be considered experts after the first year, and most new teachers still require assistance into their second year of teaching (Fideler & Haselkorn, 1999). Further, the needs of the second-year teacher are different from the needs of the first-year teacher. For instance, Yopp & Young (1999) discovered that inductees who were in their first year of the BTSA program appreciated release time better, rated the BTSA higher than second-year teachers, and said the program positively influenced their desire to stay in teaching. On the other hand, the second-year teachers liked the time with the support providers better than release time (Yopp & Young, 1999). It is for this reason that some induction programs extend beyond the first year of teaching.

Models of Induction

There are three models examined in this paper: the California model, the Connecticut model, and a model for science teachers in Arizona (Ficara, Patterson, & Luft, 2000; Luft & Brockmeyer, 2000; Luft & Patterson, 2000). In reviewing the research, two programs appeared consistently in the literature: the California model and the Connecticut model. The Arizona model was included because it, too, contains nearly all of the elements of induction as defined by research: orientation, mentoring, professional development, teacher assessment, program evaluation, follow-up, the adjustment of working conditions, opportunities for collegial collaboration, and release time.

The California Model

The statewide California Formative Assessment and Support System for Teachers (CFASST) is a structured, systematic formative assessment process for teachers and support providers that rely on the premise that teachers learn effective practice through years of study,

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consultation with colleagues, and reflective practice (California Commission on Teaching Credentialing in Lucas, 1999, p. 45). The Beginning Teacher Support & Assessment (BTSA) is the part of the CFASST that is implemented at the local district level, and has been in operation since 1992 at a cost of $75 million. It is the BTSA that is discussed here.

Goals of the BTSA. The goals of the BTSA include helping to ensure an effective transition into teaching, success in teaching, and a high retention rate for the first-year and second-year teachers (California Commission on Teacher Credentialing and the California Department of Education, 1997). Also included is the improvement of student performance through improved training, information, and assistance for new teachers; improving the rigor and consistency of teacher performance assessments and the usefulness of those results; and establishing an effective, coherent system of performance assessments based on the California standards (California Commission on Teacher Credentialing an the California Department of Education, 1997).

Components of the BTSA program. The new teacher is supported by a mentor who has been trained for 60 hours in how to mentor, how to use the state standards, and how to engage in CFASST. The mentor engages the mentee in various ways: informal weekly meetings, formal monthly contact, phone calls, journals, e-mail communication, observations, portfolios, and other professional development activities. The new teacher is assessed twice in the first year. There is also an Individual Induction Plan (IIP) for each new teacher based on an on-going assessment of the teacher's development. The IIP is designed to assist new teachers in teaching the core curriculum to *all* students. Finally, release time is provided for the teachers to engage in an orientation, observations, and conferences or other professional development activities.

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BTSA in action: North Orange County, California. Originally funded for 17 months from 1992-1994, the BTSA program in North Orange County has been refunded twice through June of 1998. Although the feedback received regarding the CFASST during the '98-'99 school year was only from the mentor teachers participating in the BTSA of CFASST, it was generally positive (Olebe, 1999). The feedback for those participating in the North Orange County BTSA was more comprehensive. Surveys of beginning teachers and support providers as well as observations made by staff and an independent evaluator reveal many strengths of the program (Yopp & Young, 1999, pp. 31-32): (a) the program is responsive to the needs of all participants, including support providers and principals; (b) the beginning teacher and support provider matches are effective; (c) there are beginning teacher and support provider co-teaching activities; (d) the Peer Support Seminar series is effective in providing new teachers with an opportunity to meet regularly and participate in a learning community; (e) the workshops are meaningful and well-conducted; (f) there are opportunities for professional growth through workshops and university courses for support providers as well as beginning teachers; (g) the university courses are relevant and convenient; and (h) there are multiple forms of assessment. At the end of the first funding period, Yopp & Young (1999, p. 33) reported that beginning teachers found direct observation to be the most useful assessment for the beginning teachers, and that observations by and of their support providers have direct impact on their decisions regarding support activities. A survey two years later confirmed their findings: both first-year and second-year teachers rated observations as the most useful assignment measure when planning support activities (Yopp & Young, 1999).

Results of BTSA. A statewide evaluation conducted by the California Educational Research Cooperative (CERC) found that new teachers who participated in BTSA improved

substantially in skills associated with the California Standards for the Teaching Profession (Mitchell, Scott, Takahashi, & Hendrick, 1997). In addition, the teacher attrition rate decreased from 37% to 9% in five years (Darling-Hammond, 1999).

The Connecticut Model

In September 1996, the Report of the National Commission on Teaching and America's Future (NCTAF) cited that teachers in Connecticut were "among the best prepared in the nation" (Connecticut State Department of Education, 1999, p 1). This could be due, in part, to the statewide Connecticut Beginning Educator Support and Training Program (BEST), a two-year program that has been in existence since 1986. The mission of the BEST program is to make certain that every student is taught by a highly qualified and competent teacher by ensuring that new teachers have opportunities to strengthen their knowledge of subject matter and instructional strategies, enhance their understanding of students as learners, understand the school, district, and state curricular goals and standards, and begin a process of lifelong learning and professional growth (Connecticut State Department of Education, 1999, p 1). They believe this will be accomplished using two forms of support: state and district support as discussed below.

State support. Fifteen hours of state support are required for both years. This support consists of Connecticut Competency Instrument Clinics in year one with assessment being completed in the first 90 days, a science safety assessment for science teachers only in year one, discipline-specific seminars and coaching clinics in years one and two, regional portfolio preparation clinics in year two, and graduate courses in either or both years.

District support. District support consists of portfolios, release time, and mentors. First, the inductees' portfolios represent a seven- to ten-day unit, daily lesson logs, videotapes of two lessons, examples of student work, and reflective commentaries. The portfolios are designed to

assess foundational skills and competencies of the professional standards and are examined and evaluated by pairs of experienced educators with 50 hours of training who have extensive teaching experience in the inductees' discipline. Second, eight half-days of release time are given for new teachers to observe or be observed by their mentors or to be used for professional development activities. Finally, there is a structured, two-year mentoring program for the new teachers. The mentors are district-selected, accomplished teachers in the same grade/discipline as the mentees, and have completed the BEST Program Support Teacher Training in which they learned to provide instructional support and identify additional resources needed to ensure that the new teachers develop competent teaching skills. The mentors meet with the mentees bi-weekly or have other forms of contact, help the mentees explore a variety of teaching strategies that address diversity, and assist the new teachers in identifying teaching strategies that conform to the foundational skills and competencies and in reflecting on the effectiveness of teaching and learning (Connecticut State Department of Education, 1999).

Student achievement. There have been "meteoric" gains in the levels of student achievement since the BEST program has been in place, especially in math where Connecticut students are ranked first in the nation, and reading where the students are 17 percentage points ahead of the rest of the nation (Darling-Hammond, 2000).

The Alternative Support for Induction Science Teachers (ASIST) Model

Ficara, Patterson, & Luft (2000) suggest an induction model that would meet the needs unique to secondary science teachers. This model is the Alternative Support for Induction Science Teachers project (ASIST) funded through the Arizona Board of Regents' Eisenhower Mathematics and Science Program, in existence for three years. The program is based on three assumptions (Ficara, et al., 2000, p. 8): (a) the beliefs and practices of beginning teachers are

often disconnected (Salish I Research in Ficara, et al., 2000, p. 8); (b) beginning teachers have psychological, logistical, managerial, instructional, and philosophical needs to be met (Waters & Bernhardt and Brockmeyer in Ficara, et al., 2000, p. 8); and (c) support programs are critical in the development of professional science educators. There are six staff members to assist 25 teachers: (a) a university science educator experienced in pre- and in-service teacher education; (b) three mentor science teachers experienced with the state teaching standards; and (c) two graduate assistants who collect data and work with new teachers. There is also an advisory board of project staff and school district staff-development specialists that suggest the program format, check the alignment with state and district standards, help integrate district and university support, and evaluate efforts (Ficara, et al., 2000, p. 7). The program consists of workshops, monthly meetings, clinical supervision of beginners, individual and group discussions, on-line dialogues, a visit to a state or national science education conference, and ongoing evaluation.

Luft & Patterson (2000) conducted a study to compare teachers in Project ASIST with teachers in district-led induction programs and with teachers in no program. The results were threefold. First, the teachers in ASIST conducted lessons that were more student centered and inquiry oriented than either those teachers in the district program or those in no program. Second, the teachers in ASIST were more reflective and felt fewer constraints to their teaching than either of the other groups. Finally, teachers in ASIST and in district programs created standards-based lessons more often than teachers in no program; in fact, teachers having no induction program had more didactic and traditional lessons using worksheets and textbooks than either of the other two groups. Although Luft & Patterson's (2000) study illustrates the success of the program in that particular situation, more research is needed to establish the overall

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efficacy of Project ASIST over time. It would also be beneficial to determine exactly how a mentoring program and/or a full induction program for beginning science teachers might be developed, as well as the effectiveness of such programs on teacher retention, science teaching, and student achievement. Despite the questions that persist, the ASIST model demonstrates benefits of induction programs, especially in the area of teaching practice.

Benefits of Induction Programs

Research has shown that induction programs are beneficial in three areas: (a) teacher retention (e.g., Colbert & Wolff, 1992; Fideler & Haselkorn, 1999; Hegler & Dudley, 1986; Odell & Ferraro, 1992); (b) teaching practice (e.g., Mitchell, et al., 1997; Schaffer, Strigfield, & Wolfe, 1992; Stroot, et al., 1999; Ward, Dianda, van Broekhuizen, Radio, & Quartz, 1992); and (c) student achievement (e.g., Darling-Hammond, 2000; Wilson, Hammond, & Berry, 2001). Each is described in the following sections.

Teacher Retention

Induction programs can help to improve teacher retention (e.g., Colbert & Wolff, 1992; Hegler & Dudley, 1986; Odell & Ferraro, 1992). In its 1999 survey, Recruiting New Teachers (Fideler & Haselkorn, 1999) found favorable retention rates among urban induction programs: 57% of reporting districts retained 90-100% of inductees, 12% retained 80-89%, and 5% retained 70-79% of inductees; the median retention rate was 93%, compared to national estimates of 77-90%. In the Southwest Regional Educational Laboratory (SWRL) evaluation of the California New Teacher Project (CNTP – the predecessor to BTSA), there was 7% more retention among CNTP teachers than non-CNTP teachers (Ward, et. al, 1992). Unfortunately, data of this sort is not available for Arizona since this state does not track attrition or retention rates.

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Teaching Practice

There have been studies demonstrating the benefits of induction programs for new teachers (e.g., Schaffer et al., 1992; Stroot, et al., 1999). Stroot, et al., (1999) reported that new teachers wanted assistance with instruction, managerial concerns, and emotional support. Those who received induction support moved beyond basic management concerns to instructional needs, reported making better use of instructional time, improved classroom management, and had better communication with parents and colleagues. They also improved planning skills, handling class discussions, and preparing unit lesson plans (Stroot, et al., 1999). Schaffer, et al. (1992) found that first-year inductees made significant gains in the level of teaching skills and improvements in classroom organization and management skills, and second-year teachers made gains in teaching skills related to changes in more intellectually complex areas of teaching.

Some of the most extensive evaluation of induction has taken place in California, examining both the BTSA and the CNTP (Humphrey, et al, 2000). As stated previously, new teachers who participated in BTSA improved substantially in skills associated with the California Standards for the Teaching Profession (Mitchell, et al., 1997). The CNTP evaluation conducted by the SWRL over a three-year period demonstrated that beginning teachers were more proficient than their non-CNTP peers in effective instructional practices, student engagement, and the assignment of difficult student tasks (Ward, et al., 1992).

Student Achievement

Unfortunately, the literature linking the effectiveness of induction programs to student achievement remains very limited. On one hand, Connecticut boasts increased gains in student achievement since the implementation of their induction program (Darling-Hammond, 2000) and in state National Assessment of Educational Progress (NAEP) findings. The most consistent

highly significant predictor of student achievement in reading and math during each year of testing was the proportion of well-qualified teachers in the state (Wilson, et al., 2001). On the other hand, it has not been determined what "well qualified" means, or if it includes teacher participation in an induction program. Further research is necessary to determine whether a link exists between teacher induction and student achievement.

Research Methods

In May of 2000, researchers for the Arizona K-12 Center were charged with the task of conducting a comprehensive statewide survey to ascertain how traditional K-12 public schools in Arizona were addressing induction issues.

Procedures

The survey design. Using the Arizona Department of Education Guide to School Districts (2000), the researchers elected to approach the telephone survey via a county-by-county approach. This approach was likely to be the most effective approach in covering all the traditional public school districts in the state within a limited timeframe. It should be noted that the researchers acknowledged the shortcomings of data collection solely via telephone interviews; face-to-face interviews were desired, but not feasible. However, to ensure a high rate of return, it was necessary to personally contact all 225 school districts by telephone and, in a few cases, via e-mail.

The instrument. Based on a literature review in August 2000 and a previous study that specifically focused on induction issues in Arizona (Wong, Sterling, & Rowland, 1999), a preliminary telephone survey instrument was constructed in August of 2000. The questionnaire consisted of a series of open-ended questions about various elements of induction programs. For example, questions were posed about the implementation of components of induction such as

orientation, mentoring, professional development, follow-up of inductees, and program evaluation.

Piloting. The survey was piloted in August of 2000 using school districts in one county. Piloting lasted approximately two weeks, during which time the questionnaire underwent two major revisions by adding overlooked questions regarding funding, the number of students in the district, and whether the program was district based or school based, and two minor revisions of rephrasing the wording of questions (e.g., if the person surveyed did not understand the term *induction activities*, the term *support activities for beginning teachers* was used). After these revisions, surveying of the school districts commenced using the improved instrument.

Survey implementation. From September to November, 2000, the researchers contacted 225 traditional public school districts available in the directory from all counties across Arizona to administer the instrument. Although the two researchers started out contacting districts in different counties, soon they had to abandon this approach and contact districts based on personal convenience. To ensure reliability, they maintained consistent administration techniques. A third researcher was added in late September. She was trained in questionnaire administration and was assigned to small school districts in one county to maintain consistency. In all, 225 pubic traditional K-12 school districts were contacted. By early 2000 December, all surveys had been completed.

Data analysis. As data were collected, they were transcribed as most of them were narrative answers to the open-ended questions. Then the data was analyzed both qualitatively and quantitatively. The narrated answers were later coded and entered into the data management/analysis program Statistical Packages for Social Sciences (SPSS 10.0) by one researcher. Only one individual coded and entered the data to ensure reliability in this aspect of

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the data collection. SPSS was used again in analyzing the quantitative data by running simple frequency counts of various aspects of induction programs as reported by respondents and by examining strong associations among the different variables represented in the survey through chi-square tests.

The questionnaires were analyzed on three levels. First, the researchers were simply interested in seeing what induction programs existed in the various counties. A district that identified at least two components of an induction program indicated in the questionnaire (e.g., orientation, mentoring, school year professional development, program evaluation, and follow up) was considered to have an induction program. Second, we were able to discern common patterns. For example, it was found that the number of students and faculty in a given school or district was highly correlated with the type of program that a given site may have (i.e., the larger the district, the more formal the intensity of the program). Third, it was to be determined whether the programs were high-intensity or low intensity. Stansbury & Zimmerman (2000) coined the terms "high-intensity" and "low-intensity" induction programs, and asserted that high-intensity induction programs would contain components such as an extensive orientation, formal mentoring, professional development, release time, teacher assessment, program evaluation, and follow-up. The researchers decided that in this study high-intensity programs would be those that contained at least four out of five of the components as depicted in Figure 3. Those districts that had only two of the components were identified as low-intensity induction programs.

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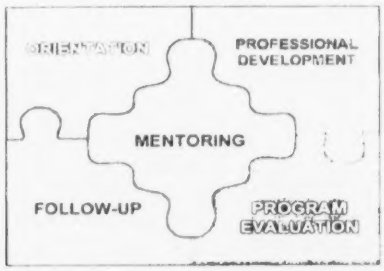
Figure 3. Five components identified in high-intensity induction programs.

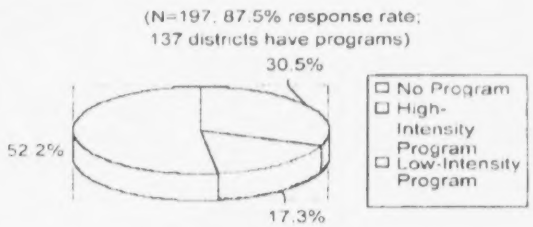


Findings

A total of 225 pubic traditional K-12 school districts were contacted. Of these, 28 districts either declined participation or did not return repeated contacts. After seven attempts, these districts were labeled as "non-participatory." Information was collected on the remaining 197 districts giving a response rate of 87.5%.

Of the 197 districts surveyed, 137 (69.5%) had induction programs as illustrated in Figure 4. The researchers identified districts as having induction programs if those programs contained at least two of the high-intensity components of an induction program.

Figure 4. Identified percentage of districts with and without induction programs in Arizona.



The detailed results of this survey, evaluating the state of induction in Arizona which is based on the 137 districts that are detected to have an induction program, are provided in the following sections summarizing the basic elements of induction: (a) orientation; (b) mentoring; (c) professional development for new teachers; (d) follow-up for those teachers into their second (or even third) years; and (e) evaluations of the programs. Another set of elements concerned

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with the operation of successful induction programs such as goals, the type of individual(s) overseeing and managing the induction programs, funding, and the overall program intensity as determined by all the elements in the programs.

Discussion

Orientation

Nearly every school district surveyed (97.8%, n=134)) reported offering orientation for their new teachers. While these orientations vary greatly from a half-day to seven full working days, districts clearly seem to value this method of addressing induction issues and matters.

Mentoring

The types of mentoring programs are nearly evenly distributed: formal (33.6%), semi-formal (24.8%), and informal (29.2%) as depicted in Figure 5. The remaining 12.4% districts do not have any mentoring component in their induction program. A formal program is defined as one in which the administration has a mentoring program in place with specific guidelines, program is funded, mentors are compensated in some way, and there are specific expectations and policies regarding the mentoring process. In semi-formal programs, the administration actively encourages mentoring and may assign mentors to mentees, program may or may not be funded, mentors are not compensated and there are few guidelines and policies regarding the mentoring process. The administration in informal programs support mentoring but does little to actively encourage it, mentors and mentees set up their own relationships (more like buddy systems), there is no funding for mentoring, and no guidelines or expectations.

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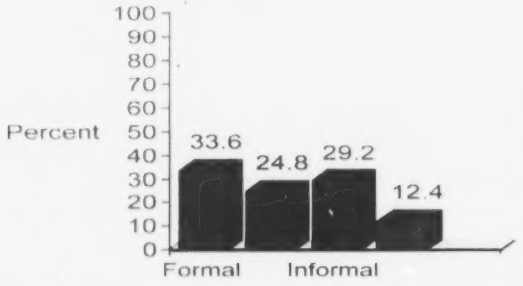
Figure 5. Formal and informal mentoring programs in Arizona districts.



The formality of mentoring in an induction program is highly mediated by the size of the faculty; in other words, the smaller the district, the less structured the mentoring. In a small district of 100 or less students and a faculty of 20 members or less, mentoring happens "automatically," as one respondent reported, and the need for a formal induction program would be "redundant and wasteful." The opposite situation was found in large school districts with over 10,000 students and hundreds of staff members. In these cases, formal mentoring programs helped prevent new teachers from missing integral information and becoming a less-significant part of the educational community. Semi-formal mentoring seems to serve the needs of medium-sized schools. This pattern makes intuitive sense: with a small faculty, mentoring is more likely to occur automatically as a smaller faculty might have more opportunities to interact; in a larger district, where a beginning/new teacher could potentially get lost in the crowd, a formal mentoring component of an induction program ensures the new teachers get the assistance they need.

Professional Development

Closely related to orientation activities are professional development in-services during the school year. A substantial 51.8% of the school districts that have induction programs reported having professional development in-services during school year for their new teachers. When compared to the figures for orientations, more districts appear to think that orientation is

all that is needed for induction. A number of respondents indicated that after an initial orientation, new teachers are simply treated as part of the "regular" or "veteran" staff. While it might be the case that induction issues of new teachers are addressed within the regular school-year in-services for all staff, it is more likely that the needs and issues of new teachers are simply not being given the special attention they require. As Loucks-Horsley, et al. (1998) have shown, this one-shot approach to induction is rarely effective.

Special induction in-services. Respondents were asked if they provided any kind of special professional development activities or events especially tailored to their new teachers, and very few indicated they do (21.2%, n=29). Those that did report having special professional development events or activities mentioned special grants aimed at assisting beginning math and science teachers, technology training for all new-to-district teachers, and/or English as Second Language (ESL) training for all new-to-district teachers. Smaller districts rarely conduct special professional development induction activities. It is difficult to explain this finding but perhaps the larger districts simply have more beginning teachers so special professional development activities are warranted. If a small school district has only two or three new/beginning teachers, special professional development activities for so few people may not be justifiable, particularly if funding and resources are an issue.

Follow-up

The lack of follow-up on inductees reported by 73% of school districts is indicative of two common beliefs reported by respondents. The first belief is that some respondents recognize a need for follow-up but simply did not have the funding to carry out this aspect of their program. The second belief is that induction needs to be only a temporary measure and that beginning teachers do not need long-term continued support. As the induction literature

demonstrates, however, this reasoning is not supported (Fideler & Haselkorn, 1999; Yopp & Young, 1999). It is even more difficult to explain why there tends to be more follow-up of inductees after the first year in larger school districts than smaller ones, but issues of personnel resources and funding may have some bearing on this issue. It might also be the case that in smaller school districts follow-up might be perceived to not be needed as the small faculty size lends itself to constant interaction and follow-up with the new teacher.

Evaluation

While it is encouraging that two-thirds of the 137 districts conduct some sort of evaluation of their induction programs, it is rather disturbing that 31.4% does not conduct *any* evaluation. Without evaluation, there is no way to determine the effectiveness of a particular induction program to the beginning teachers being served. This is clearly an area that needs further investigation. One can only speculate why smaller school districts do not conduct evaluations or conduct only informal evaluations (59.9%), but several possibilities are: (a) smaller school districts tend to have low-intensity induction programs, so the need for a formal evaluation is not as significant; (b) there is no funding and/or other resources to conduct a full-scale evaluation; and (c) informal evaluations for some districts is sufficient. Districts that do carry out formal evaluations might do so because they have the means and/or those who fund their induction programs require it.

Goals of Induction

School districts reported a variety of goals concerning their induction programs. Semantics played a role in interpreting respondents' answers. For example, a commonly mentioned goal, "supporting teachers," might include making teachers familiar and comfortable with district policies, procedures, etc., but because these respondents did not explicitly use this

phrase or mention this idea, one cannot infer this is the case. Therefore, the goal of "supporting teachers" was the phrase the respondents explicitly used and was employed in creating this category. As another example, there is a difference between simply making a teacher "comfortable with school district policies, procedures, and philosophies," which was the most common goal, versus "making them comfortable with district policies . . ." and "supporting and retaining" teachers, the second-most common goal.

Surprisingly, teacher retention did not prove to be the primary goal for induction programs (4.4%); on the contrary, teacher effectiveness was the popular preference (16.1%). In addition, only five districts mentioned increased student achievement as their primary goal. Although many of the goals are self-evident, 11 participants noted other goals that were particularly unique to their school districts. For example, one district mentioned introducing teachers to the culture of the students. This district was located on a Native American reservation and has many teachers from cultures other than Native American. Given the background information, this is indeed a very reasonable goal. Another respondent noted that the only goal of the induction program was to make teachers "familiar with state standards." Thus, by examining the goals of the various induction programs of school districts in Arizona, one can better understand why there might be so many different interpretations and kinds of induction programs in general.

Responsibility for Overseeing Programs

Superintendents and assistant superintendents (34.3%) are most often the people responsible for induction programs, frequently in smaller school districts with 1,000 students or less. The second largest category of people responsible for induction programs, as seen in 21.2% of the districts, is a combination of people; this seems to be the preferred method of managing

induction programs in larger school districts. What is even more interesting is that other people than the usual members of the school district (e.g. personnel of federal programs) tend to oversee as many programs among districts having more than 10,000 students as the combination of people mentioned earlier. The fact that principals are frequently named to oversee induction programs (8.8%) is not at all surprising as they are the ones charged with assisting teachers with their professional development.

It is also notable that along with smaller faculty, superintendents and principals tend to oversee more of the low-intensity programs. The first point to be recognized about these results is that there are overwhelmingly more low-intensity programs than high-intensity programs; therefore, it is not surprising that no matter who is responsible, they are more likely going to be responsible for a low-intensity program than a high-intensity program. However, it is significant that so many superintendents and principals oversee low-intensity programs whereas other kinds of individuals, such as Career Ladder Program (CLP) Personnel, tend to oversee high-intensity induction programs. Perhaps there is a connection between small population districts and large population districts. While it is not possible to explain why this situation exists, the implications of this result necessitate further investigation.

Funding

Over forty-one percent of induction programs in Arizona are solely funded by school districts' Maintenance and Operation (M&O) budgets. When including grants in a school district's M&O budget, over 75 percent of the programs are funded using these sources. Grant money is temporary, and is therefore an unreliable source of revenue upon which to build a long-term induction program. Career Ladder Program (CLP) funding, usually combined with some other source of funding, accounts for eleven percent of the funding sources for induction

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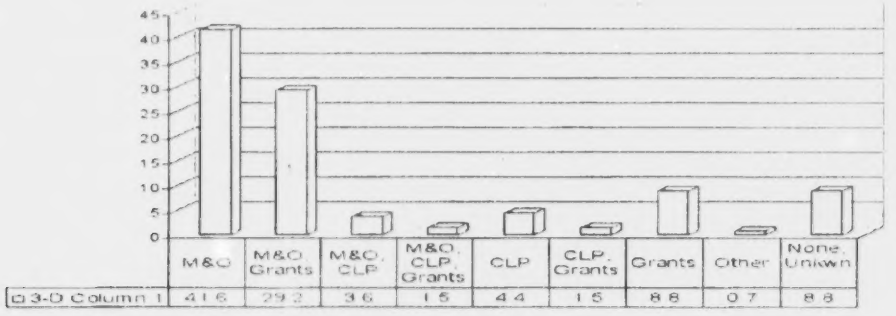
programs in the state. With the exception of the districts that do not know their funding sources and one district that uses profits from vending machines, the remaining districts use a combination of their M&O budgets, grants, and CLP money when available.

Figure 6. Funding sources for Arizona induction programs.



Program Intensity

Of the 197 school districts that responded to the survey, 69.5% (n=137) have induction programs. However, only 34 school districts or 17.3% were considered to have high-intensity induction programs as defined by programs consisting of at least four of the five components: (a) orientation; (b) mentoring; (c) professional development; (d) program evaluation; and (e) follow-up. Sixty districts or 30.5% reported not having an induction program and 103 districts or 52.2% have low-intensity induction programs.

Smaller school districts (up to 1,000 students) tend to have low-intensity programs for two reasons expressed by respondents. First, the faculty sizes of some of the districts are so small that anything but a low-intensity program would be superfluous. Second, many districts which are drawing on their M&O budgets to fund their induction programs may not be able to fund anything but a low-intensity program due to small budgets. Conversely, large and very large school districts might have the resources, particularly funding beyond their M&O budgets, to maintain high-intensity induction programs.

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Summary of the Study

This survey was a preliminary step in examining induction in Arizona. It allowed the researchers to gain a sense of the varied education induction contexts across the state. Since it is not possible to account for the 28 districts that did not participate in the study, we can only say out of 197 surveyed school districts in Arizona, 17.3 percent (n=34) address the needs of new teachers in a systematic, consistent, and on-going basis.

The term *induction* varies enormously. In many cases, districts are regarding the before-school orientation in which new teachers are brought in from one-half day to seven days earlier than the rest of the faculty as an induction program. While there certainly may be some helpful information and support during this period, this singular approach to teacher induction hardly qualifies as a program in the view of most experienced practitioners and researchers familiar with induction (Loucks-Horsley, Hewson, Love, & Stiles, 1998). This result does reveal, however, the widespread misconception existing across the state about the idea of induction, what it looks like, and how it works.

Upon comparing counties, we have uncovered four commonalities among specific survey items: goals, orientation, professional development, and follow-up. The most-reported goals for induction programs are teacher success and effectiveness, the support and comfort of new teachers, and policies and procedures. The least-reported goals include classroom management and discipline, culture, knowledge of teaching strategies, and student achievement.

In school orientations, the most-often cited topics are policies and procedures, curriculum and standards, and classroom management and discipline. The least-often cited topics in school orientations are student achievement, mentoring, expectations of teachers, and a tour of the facilities.

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The most-reported professional development activities include curriculum content and standards, teaching strategies, and assessment and evaluation. The least-reported categories of include social activities, technology, parents, and CLP.

The most-often cited forms of follow-up are CLP, teacher evaluations and observations. There are five counties offering no follow-up whatsoever for inductees.

Finally, most of the high-intensity induction programs (17.3%) are located in urban areas in large school districts. Of the 197 districts responding to the survey, 103 districts or 52.2% have low-intensity programs providing minimal services and support to beginning teachers. These districts are mainly located in rural areas. Sixty districts (30.5%) do not offer an induction program.

Concerns

Of greatest concern is the fact that 82.7% of the participating districts have no programs or have low-intensity induction programs for new teachers. The lack of knowledge regarding the importance of induction programs through focused orientation, formal mentoring, adjusting working conditions, professional development for new teachers, release time for new teachers, opportunities for collegial collaboration, new teacher assessment, formal program evaluation, and follow-up into the second year is yet another concern. Even though several districts reported teacher retention and increased student achievement as goals for their induction programs, there was a lack of retention data and student achievement data across the state. In addition, most programs operate on the M&O budget; therefore, many districts claim that there is not enough money for high-intensity programs. Further funding opportunities need to be investigated.

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Areas for Further Research

This survey only looked at the specific common components of induction programs. No questions were asked about how successful they were in assisting new/beginning teachers. Although a question was posed to the respondents about their opinion on the impact of their induction programs on teacher retention, no satisfactory answer was exerted, as most districts had no teacher retention documentation. This survey has raised some key questions for future induction program developers, administrators, teachers, and teacher educators. How successful are induction programs in assisting new teachers? What are the success indicators? Do induction programs contribute to retention? How can induction programs be linked to student achievement? What is the impact of induction programs on student achievement? What is the impact on teacher retention? Who should be held accountable for providing the induction programs for teachers new to the profession? Clearly the answers to these questions would contribute to the body of research that would provide a basis for increasing induction programs as we face a shortage of teachers and strive to retain the teachers we have in the future.

Policy Implications

What does this information mean to Arizona educators, administrators, and policy-makers? First, it provides detailed information on how Arizona's K-12 public schools are addressing induction. With 82.7% of the K-12 districts not offering high-intensity induction programs, the state will continue to loose teachers within the first three years of entering the profession. Given the increasing shortage of teachers and the increasing number of new teachers entering the teaching ranks, it is important to implement high-intensity induction programs in more schools to ensure that new teacher's needs are met. Funding sources are needed to increase the number of districts in Arizona offering high-intensity induction programs.

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Second, it points policy makers to nine specific common elements that school districts and/or counties can strive to achieve in induction in Arizona. The Center is currently evaluating the 17.3% high-intensity programs defined in the 2000 survey according to the nine common elements identified in the literature published in 2001. If all districts used the same nine common elements of high-intensity induction programs, there would be a higher rate of consistency in regards to using the term induction. Policy makers at all levels need to examine and adopt the nine common elements as the standard for high-intensity induction programs. Each K-12 district can compare local induction programs with the nine common elements to determine strengths and needed areas of improvement. This will also allow each K-12 district the opportunity to seek funding to implement the nine common elements for local induction programs.

Third, the second phase of our research will be to evaluate the 34 high-intensity induction programs identified in the survey according to the nine common elements of a high-intensity induction program. Those districts that have all nine elements will be used as best practice models for induction programs in Arizona through a showcase inclusion on the Arizona K-12 Center's Best Practices Clearinghouse web site.

Conclusion

The key to developing on-going funding sources for induction programs may be to link induction priorities with partnerships. A major deterrent to implementing high-intensity induction programs is one of funding all nine common induction elements. In order to garner additional funding support it will be important to also link induction to the concerns of the business community and to the concerns of the public. Assuming that student standards and student achievement gains are important to educators, business leaders, and the general public, it

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becomes critical for educators to adopt models for induction programs that include teacher assessment accountability systems that address student standards and student achievement gain for all students.

In order to take positive action toward achieving the goals of reducing the teacher shortage, improving teacher retention, and increasing student achievement, we must address other issues than just funding. Methodologies and collegial partnerships between the K-12 districts and teacher education programs should be considered for joint data collection. This joint system to link student achievement gains with pre-service teacher education programs, student achievement gains with induction programs for first and second year teachers, student achievement gains for K-12 teachers could be used to document teacher effectiveness within the context of student achievement gains. Data collection during the first year Induction Programs to inform teacher education programs of the quality of the teacher education graduates may be an opportunity for teacher educators. The standards and criteria of teacher assessment data systems that reflect student achievement gain could become an important component of a statewide accountability system. The estimated cost of an induction programs is $1/10^{th}$ the cost of recruiting and educating a new teacher (Horn, 2002). In this era, cost effectiveness should be taken into account. The most important goal of any proposed program should be to provide a qualified teacher for each and every child in each and every classroom. How we accomplish that goal is up to the profession as a collective body speaking with one voice.

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